

GENERAL
Teleton

STEREO RECEIVER
TMC 900T

SERVICE MANUAL

**AM/FM STEREO RECEIVER
WITH CASSETTE DECK AND
RECORD PLAYER**



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PRODUCT SAFETY NOTICE

WARNING: FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER RECOMMENDED PARTS. THESE PARTS ARE IDENTIFIED BY Δ ON THE SCHEMATIC DIAGRAM.

The manufacturer's warranty and liabilities will be void if any unauthorized modifications, alterations or additions are made. For replacement purposes, use the same type or specified type of wire and cable, ensuring that the positioning the wires is followed (especially for power supply circuits). Use of alternative wiring or positioning could result in damage to the set or in a shock or fire hazard.

Specifications are subject to change without notice.

SPECIFICATION

ELECTRICAL PERFORMANCE

A) AUDIO SECTION

1. Output Power
Output: 5% THD. $>5W$
2. Tone Control Action
Output: 1000 Hz 0dBm

	Boost	Cut
100 Hz	+11 dB	- 9 dB
10000 Hz	+11 dB	-12 dB

B) AM SECTION

1. Tuning Range: 520~1630 kHz
2. I.F.: 455 kHz
3. Sensitivity (S/N 20 dB) 500 $\mu V/m$
4. S/N: 1000 kHz, 5mV/m, 35 dB
5. Distortion: 5%
6. IF rejection: 25 dB
7. Image rejection: 32 dB

C) FM SECTION

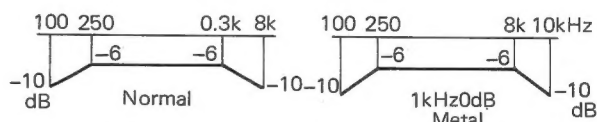
1. Tuning Range 87.4~108.5 MHz
2. IF: 10.7 MHz
3. Sensitivity (S/N 30 dB) 20 μV
4. IF rejection: 50 dB
5. Image rejection: 18 dB

D) FM MPX SECTION

1. Separation: 1000 Hz. 22 dB
2. Stereo Distortion: 6%

E) CASSETTE DECK SECTION

1. Frequency Response (Rec/Play)



2. THD (Fe_2O_3)
Rec/play: 5%
3. Crosstalk: 35 dB
4. Separation: 25 dB

MECHANICAL PERFORMANCE

A) CASSETTE DECK SECTION

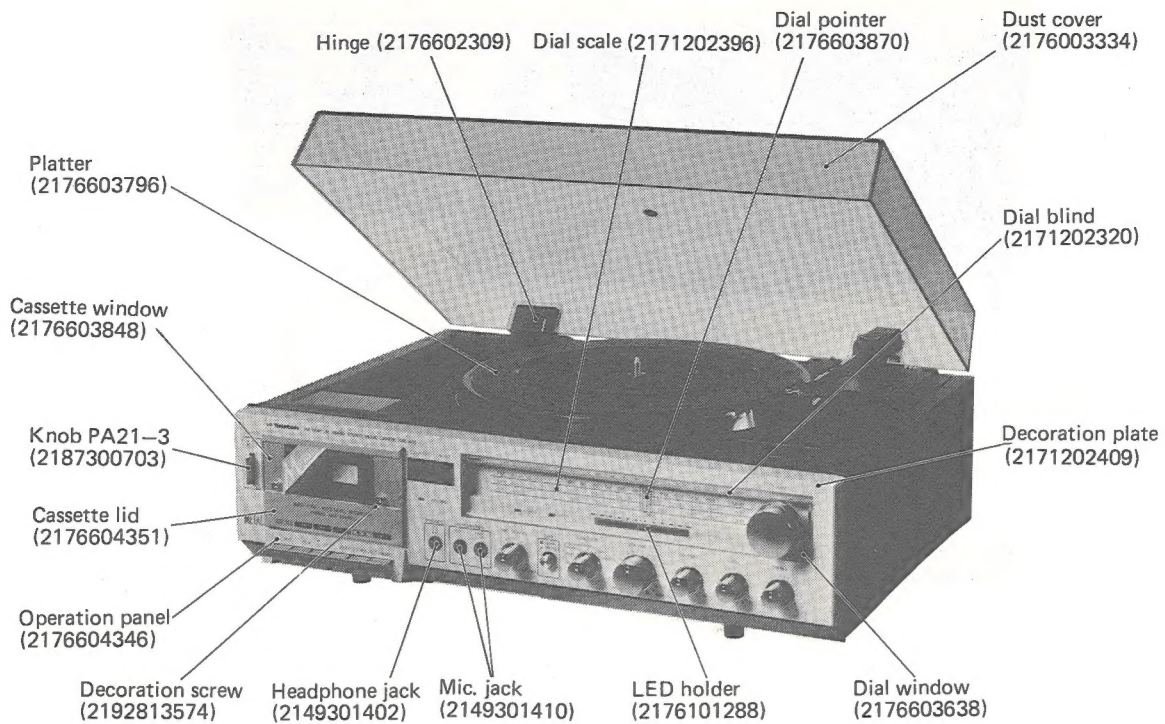
1. Tape Speed: $\pm 4\%$
2. Wow and Flutter: $< 0.4\%$ (WRMS)
3. REW. FF Time (V-60) < 120 sec.

B) TURNTABLE SECTION

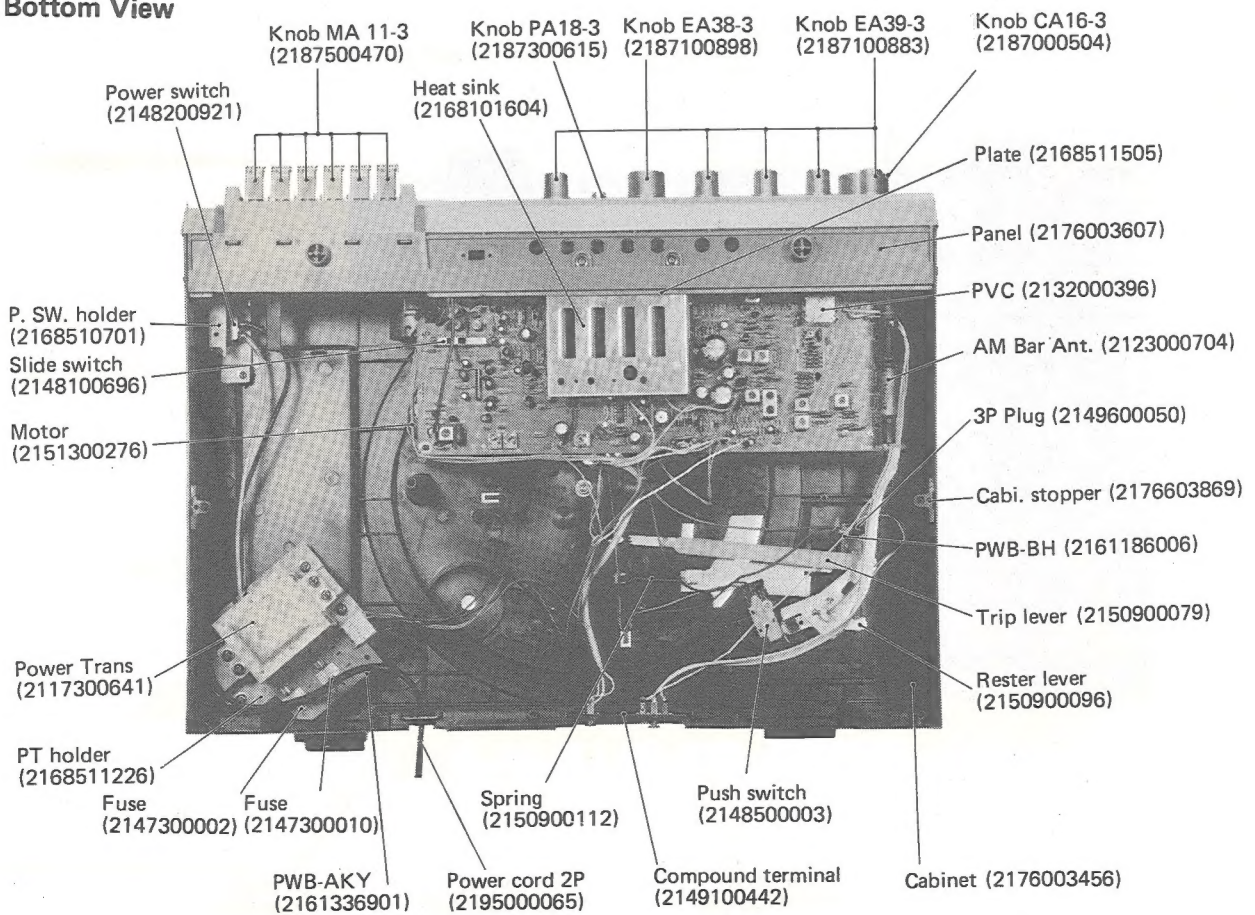
1. Speed: $< \pm 4\%$
2. Wow and Flutter: $< 0.4\%$ w rms

PARTS LOCATION

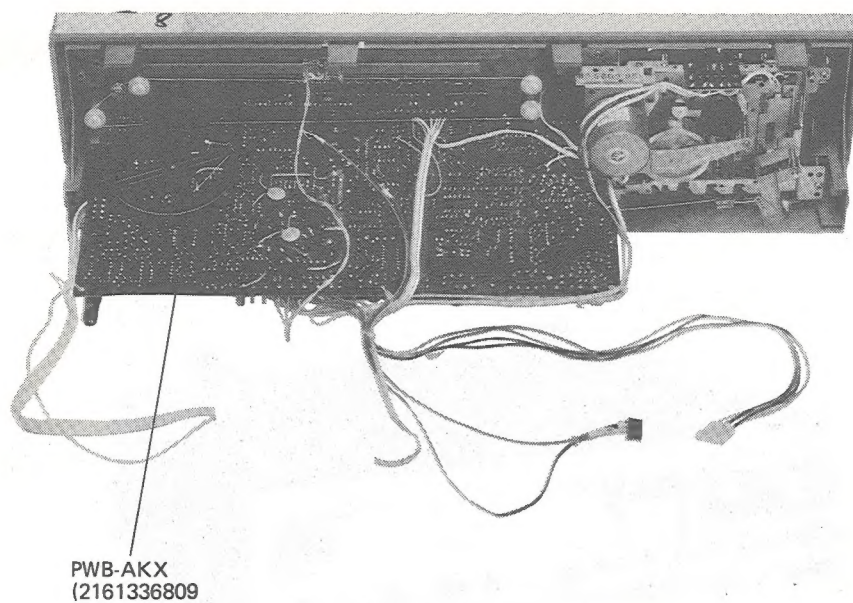
(1) Front View



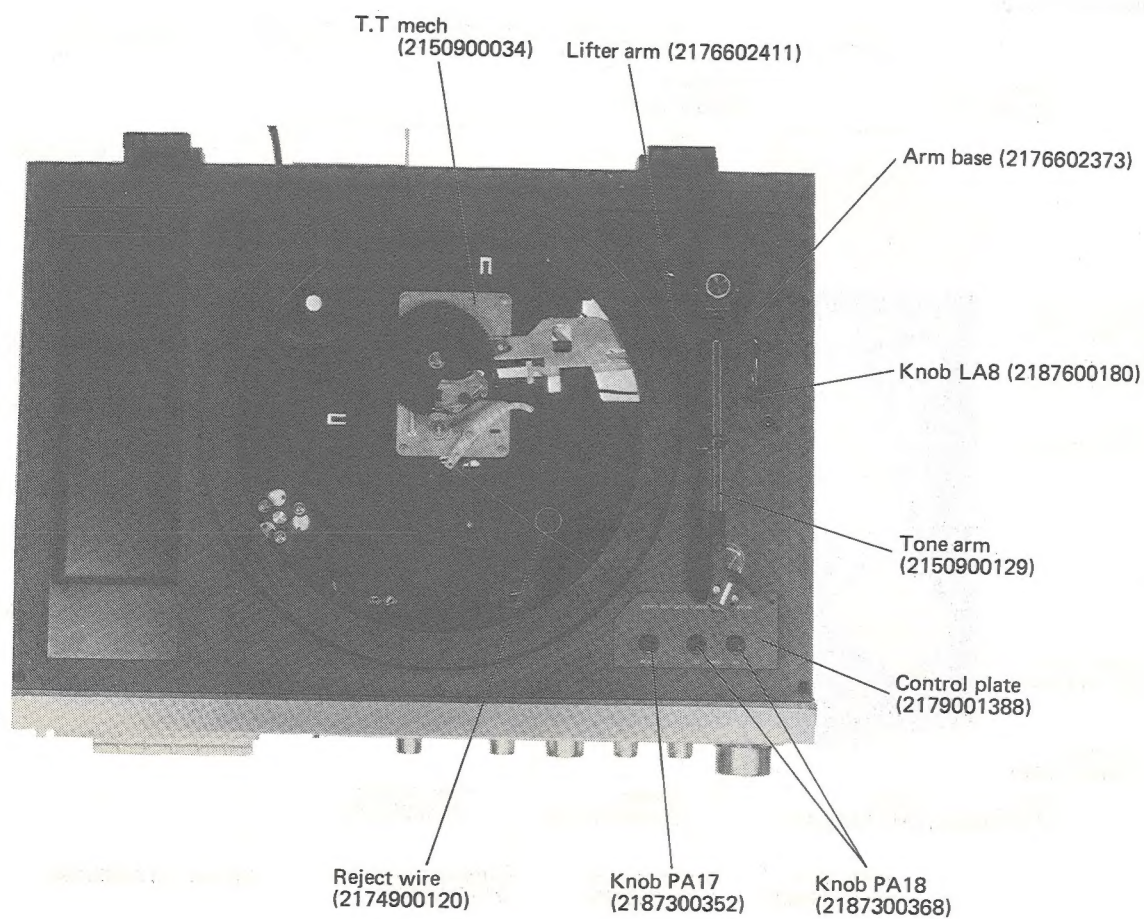
(2) Bottom View



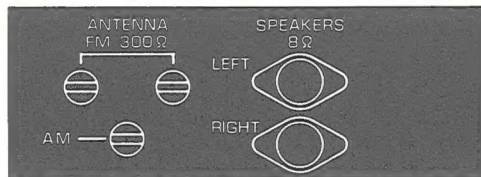
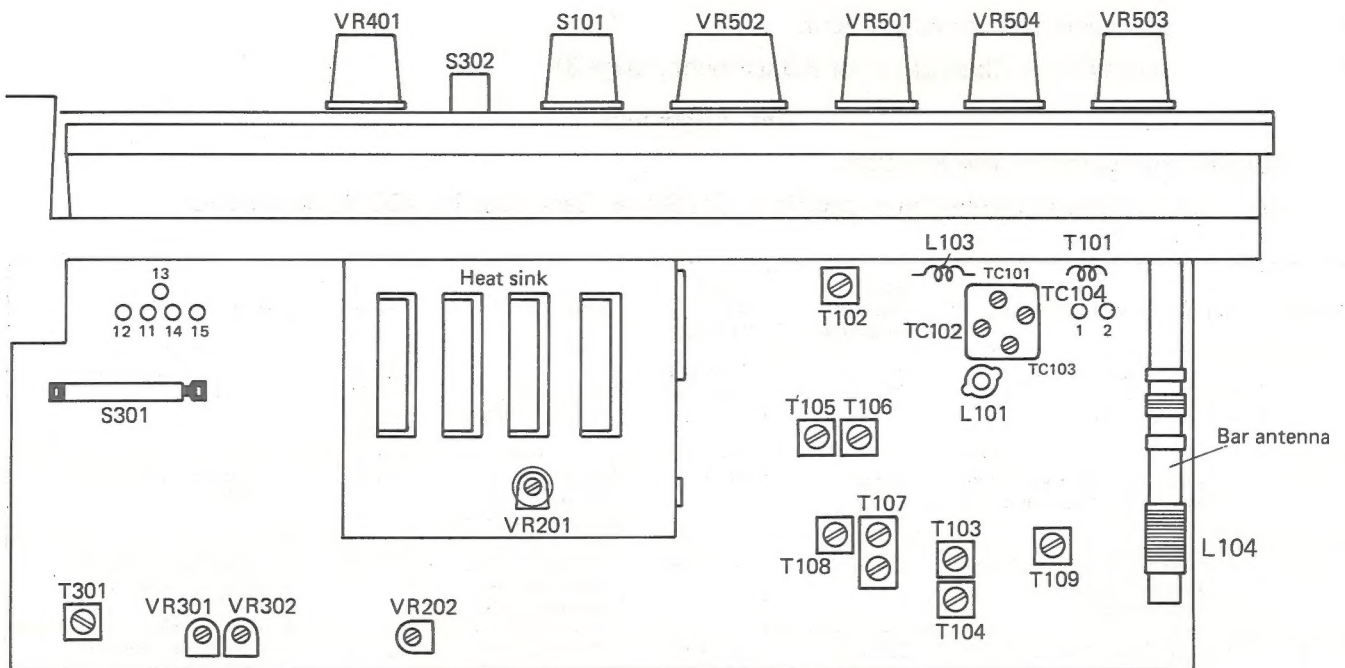
(3) Inside View



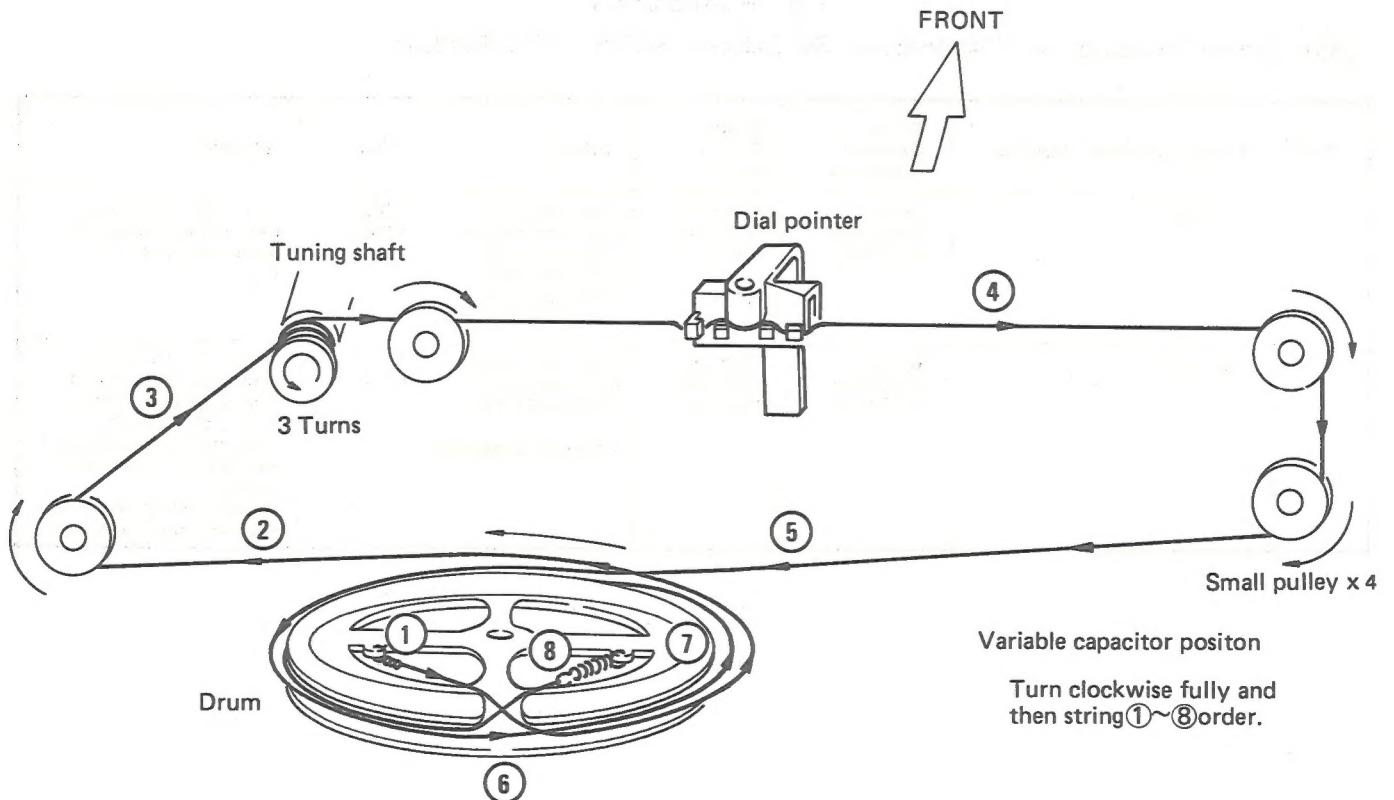
(4) Player



ALIGNMENT POINTS



DIAL STRINGING



ALIGNMENT INSTRUCTIONS

Use only enough generator output to provide a usable indication.

Use an insulated screwdriver for adjustment.

Refer to Alignment Points Illustration for Adjustment. (page 3)

AM Alignment

Set Selector Switch in AM Position.

Set Volume Control to maximum position. Set Signal Generator for 400 Hz modulation.

STEP	Signal Generator Coupling	Signal Generator Frequency	Radio Dial Setting	Indicator	Adjust	Remarks
1	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455 kHz (400 Hz Mod.)	Tuning gang fully open.	Connect output meter across speaker voice coil.	T103 T104 T106 T108	Adjust for maximum output.
2	Fashion loop of several turns of wire and radiate signal into loop of receiver.	530 kHz	530 kHz	Connect output meter across speaker voice coil.	T109	Adjust for maximum output.
3	Fashion loop of several turns of wire and radiate signal into loop of receiver.	1600 kHz	1600 kHz	Connect output meter across speaker voice coil.	TC103	Adjust for maximum output. Repeat steps 2 and 3.
4	Fashion loop of several turns of wire and radiate signal into loop of receiver.	600 kHz	600 kHz	Connect output meter across speaker voice coil.	L104	Adjust for maximum output by moving Ant. Coil along ferrite core.
5	Fashion loop of several turns of wire and radiate signal into loop of receiver.	1400 kHz	1400 kHz	Connect output meter across speaker voice coil.	TC104	Adjust for maximum output. Repeat steps 4 thru 5.

FM IF Alignment

Using Sweep Generator and Oscilloscope. Set Selector Switch in FM Position.

STEP	Sweep Generator Coupling	Sweep Generator Frequency	Radio Dial Setting	Indicator	Adjust	Remarks
6	See Fig. C	Centre Frequency 10.7 MHz	Point of non-interference	Vert. amp. thru Detector Probe to the connected point between R118 and coil. Low side to chassis.	T102 T105	Adjust for maximum gain and symmetry of response similar to Fig. A.
7	See Fig. C	Centre Frequency 10.7 MHz	Point of non-interference	Vert. amp. to the node between R128 and C128 Low side to chassis.	T107 (BLACK)	Adjust for "S" curve symmetry as shown in Fig. B. Slightly retouch T107 (BLACK) for maximum amplitude and symmetry of response curve. Repeat steps 6 and 7 for more accurate alignment.

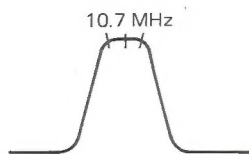


Fig.A

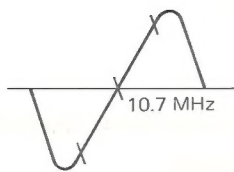


Fig.B

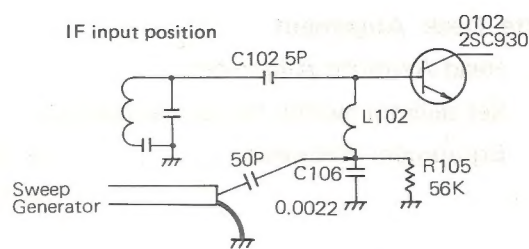
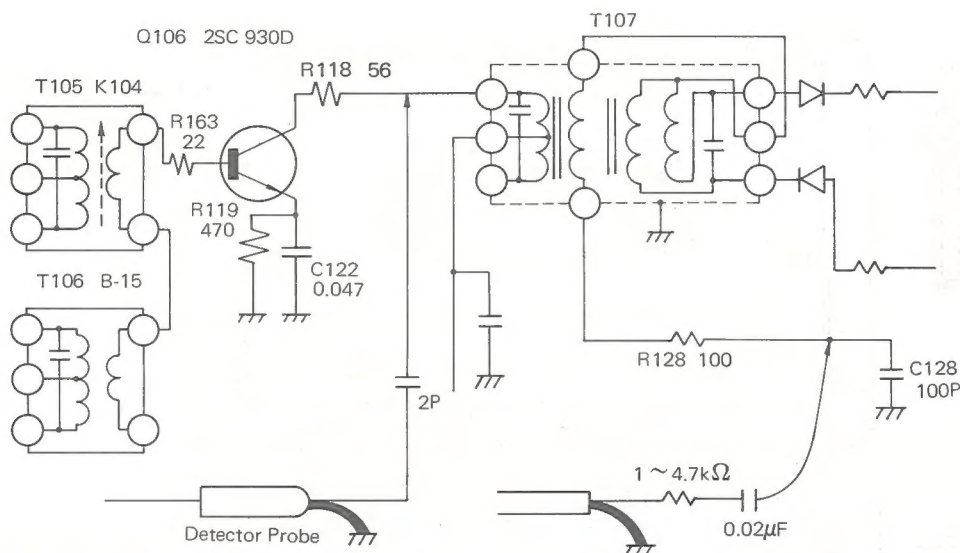


Fig.C

Perform above adjustments according to the centre frequency design of the Ceramic Filter used in the particular unit you are working on.



FM RF Alignment

STEP	Signal Generator Coupling	Signal Generator Frequency	Radio Dial Setting	Indicator	Adjust	Remarks
8	Connect to ANT Input terminal through 300Ω balanced dummy	87.25 MHz	Tuning gang fully close	Connect output meter across speaker voice coil.	L101	Adjust for maximum.
9	Connect to ANT Input terminal through 300Ω balanced dummy	108.5 MHz	Tuning gang fully open	Connect output meter across speaker voice coil.	TC102	Adjust for maximum. Repeat steps 8 and 9.
10	Connect to ANT Input terminal through 300Ω balanced dummy	90 MHz	90 MHz	Connect output meter across speaker voice coil.	L103	Adjust for maximum.
11	Connect to ANT Input terminal through 300Ω balanced dummy	106 MHz	106 MHz	Connect output meter across speaker voice coil.	TC101	Adjust for maximum. Repeat steps 10 and 11.

FM MPX Alignment using MPX Generator, Counter and Output Meter.

Set Selector Switch in FM MPX Position.

STEP	Signal Generator Coupling	Signal Generator Frequency	Radio Dial Setting	Indicator	Adjust	Remarks
12	Connect to ANT Input terminal through 300Ω balanced dummy	98 MHz Input 1mV non-modulation	98 MHz	Frequency Counter to TP (19 kHz)	SVR202	Adjust VCO for 19 kHz.
13	Connect to ANT Input terminal through 300Ω balanced dummy	98 MHz Input 1mV modulation L + 19 kHz	98 MHz	Connect output meter across speaker voice coil of R ch.	SVR201	Adjust for minimum output.

Cassette Deck Alignment

1. Head Azimuth Alignment

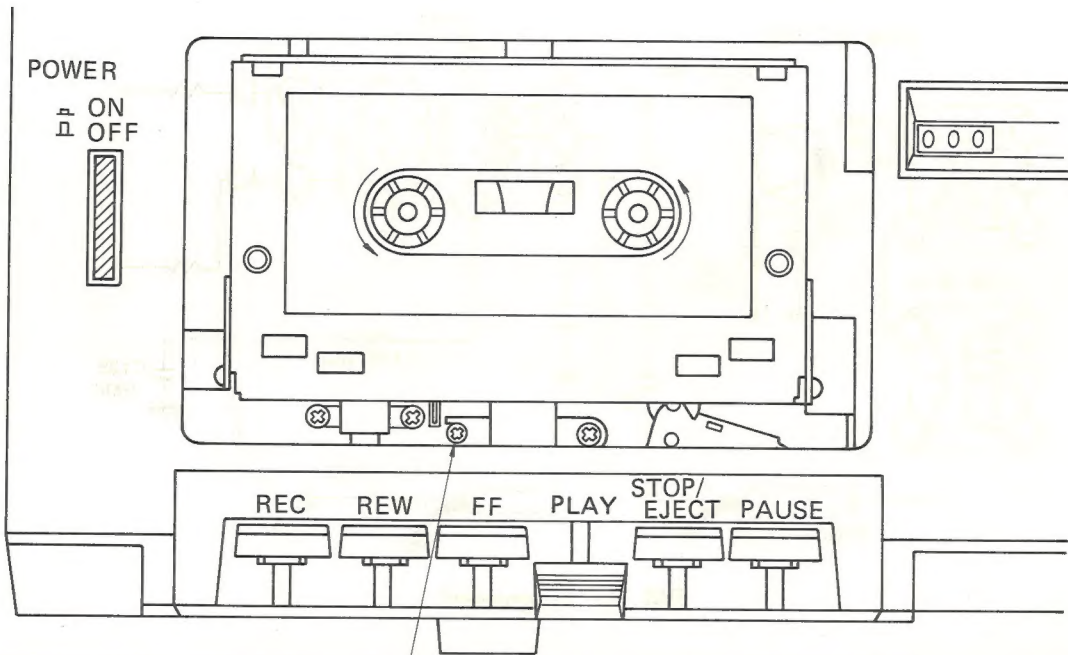
Set selector switch to normal position

Equipment Required.....

- Standard alignment tape of 10 kHz
- Output meter

Procedure:

- a) Loosen 2 decoration screws of Cassette Lid.
- b) Connect the Output Meter to the one of the speakers and playback the test tape.



Screw for azimuth alignment

- c) Adjust the Azimuth alignment screw illustrated above to obtain maximum output voltage on the Output Meter.

2. Record Bias Adjustment

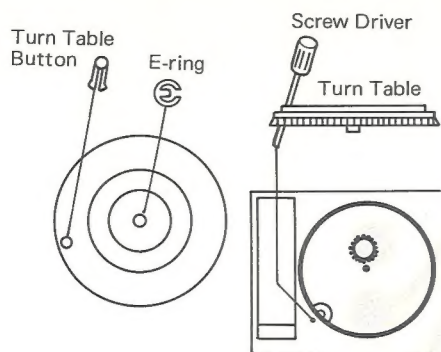
Equipment Required.....

- VTVM
- Output Meter

Procedure:

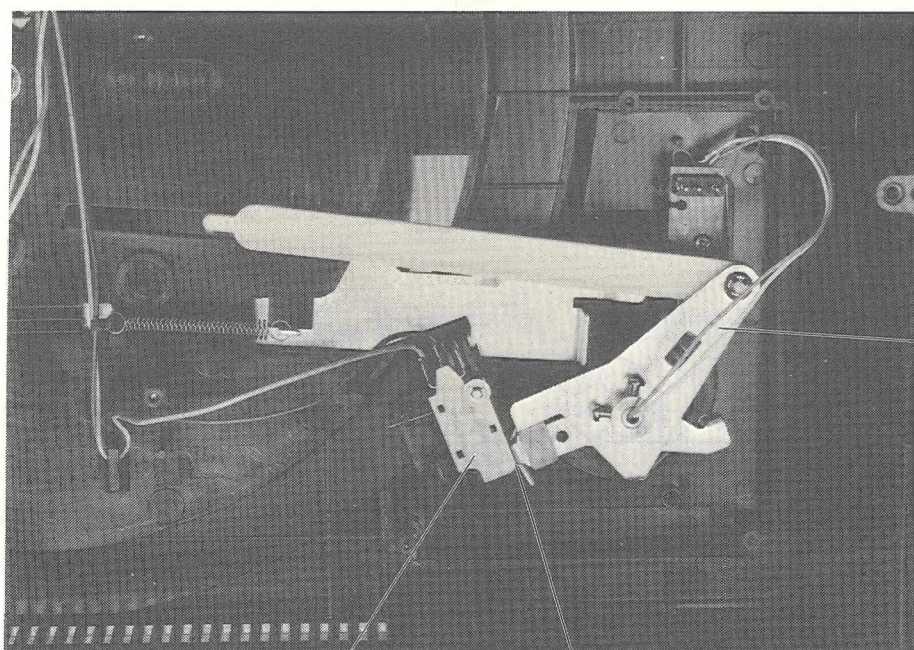
1. Depress the REC button. (REC LED is lit up)
2. Set the Tape Selector SW in Normal.
3. Adjust T301 to obtain a 67 kHz oscillator frequency while connecting the Frequency Counter to Pins 16 and 17.
4. Connect the V.T.V.M. to Pins 11 (L) and 15 (R).
Align SVR301 and SVR302 so as to obtain following values of the Bias current.
Normal position : 6mV (600 uA) \pm 0.3mV (30uA)
Confirm that the Bias current is 11mV (1100uA) \pm 1mV (100uA) in Metal position.

Removing and Installing of the Turn Table



1. Detach the E-ring of Turn Table Shaft Stopper.
2. Remove Turntable with the aid of a Flat Head Screw Driver inserted between the Turntable rim and the cabinet.
3. Remove the Turntable Button from the Turntable, insert a screwdriver through the hole. Loop the Belt over the screwdriver.
4. Set the Turntable in position with the screwdriver aligned with the convex mark. Loop belt over motor pulley and with draw screwdriver. Finally refit button.

Setting Position of the Rester Lever on Replacement of the Tone Arm



Push switch
(2148500003)

Fix screw so as to center the protrusion of the push switch against the rester lever.

Rester lever

LED PC BOARD

1. Connect the LED to the PC Board.

2. Connect the LED to the PC Board.

3. Connect the LED to the PC Board.

4. Connect the LED to the PC Board.

5. Connect the LED to the PC Board.

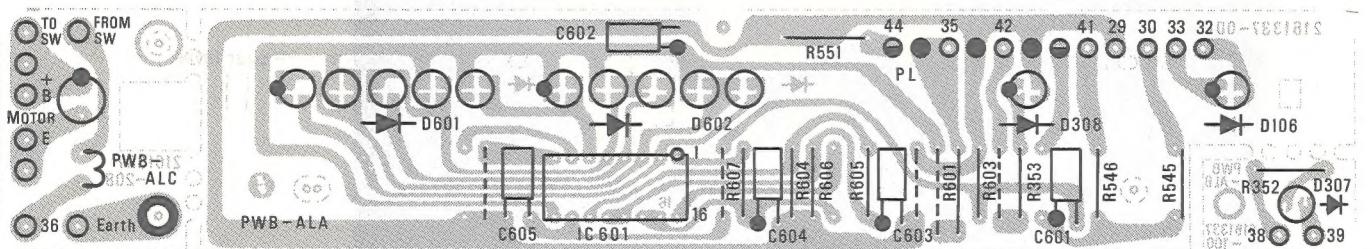
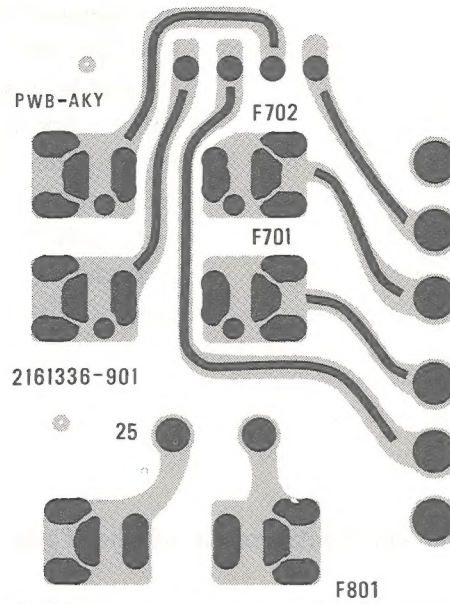
6. Connect the LED to the PC Board.

7. Connect the LED to the PC Board.

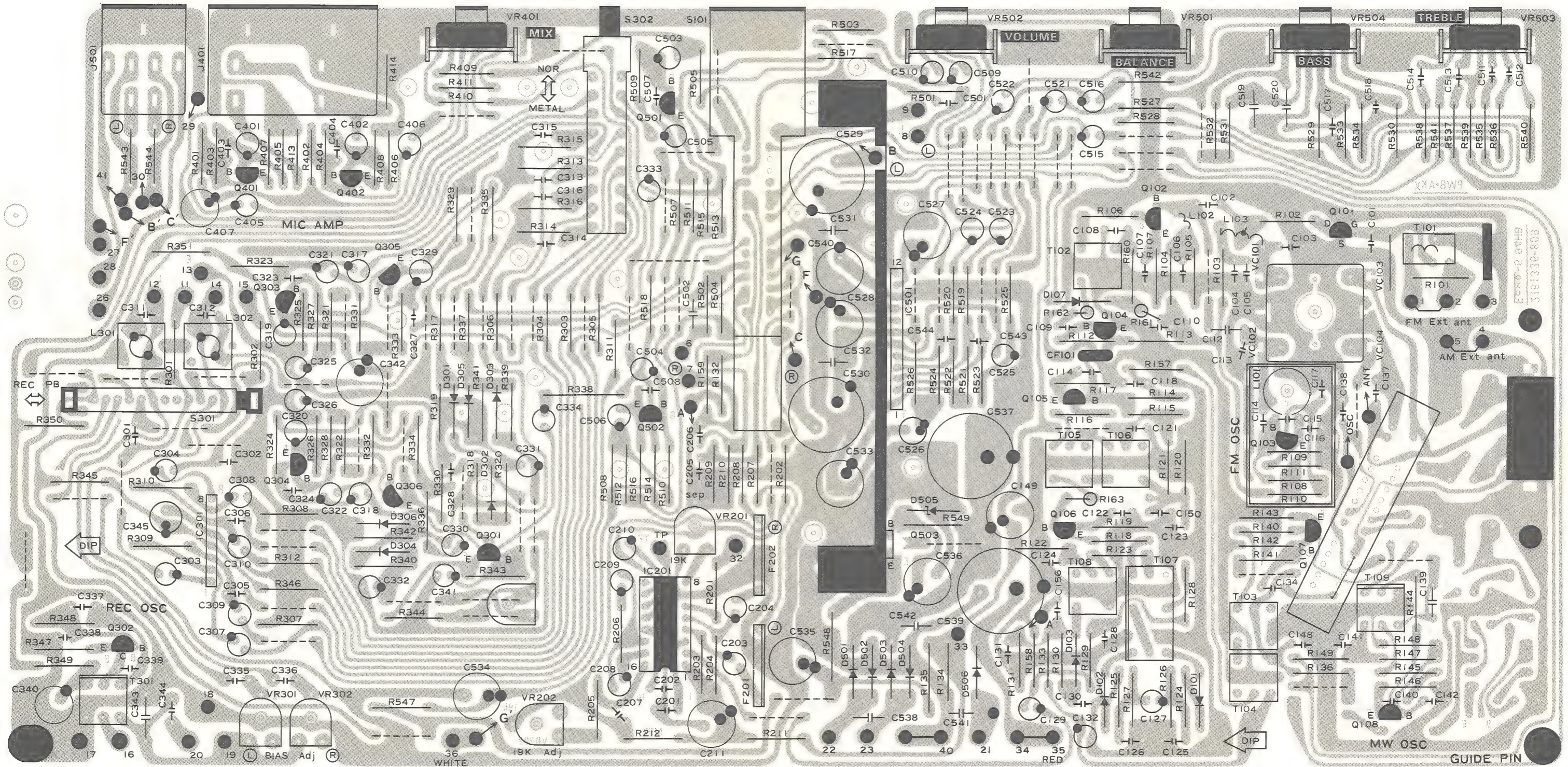
8. Connect the LED to the PC Board.

9. Connect the LED to the PC Board.

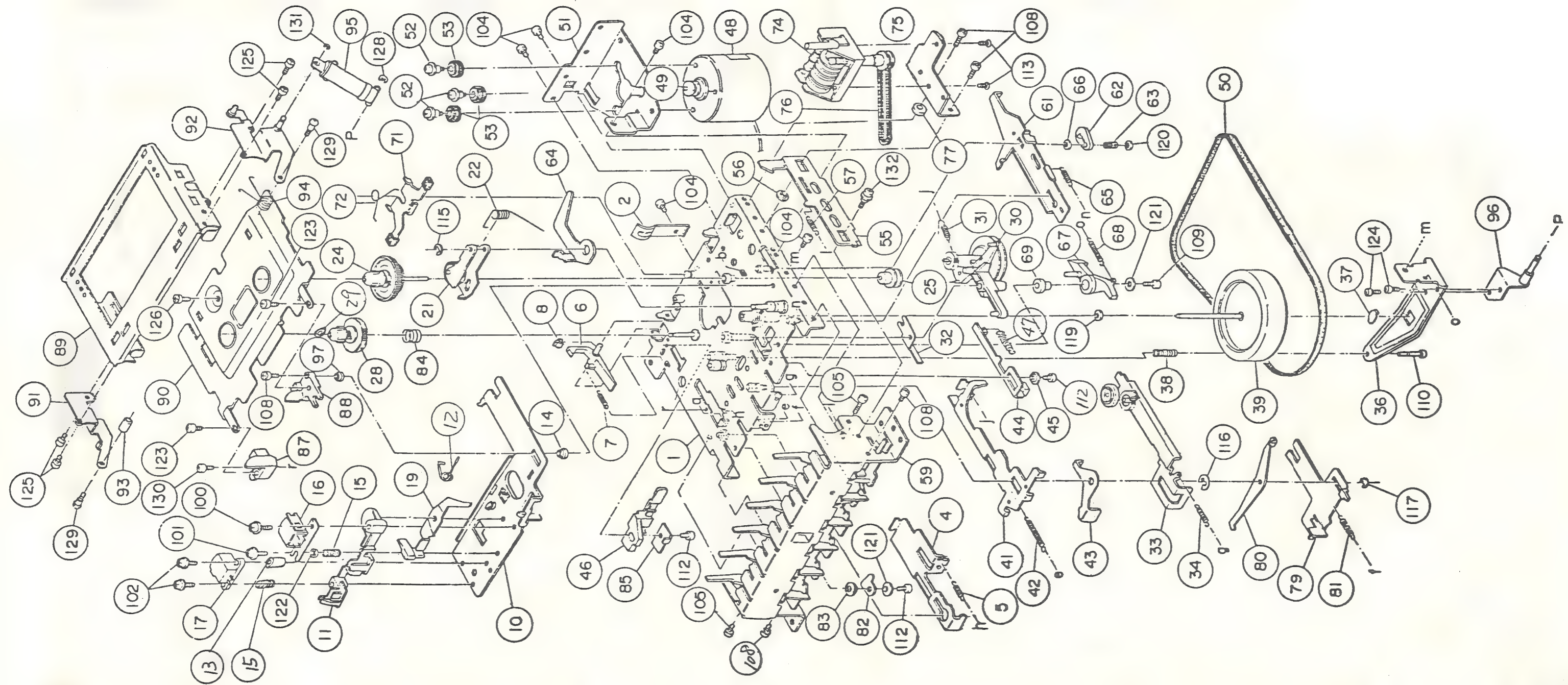
10. Connect the LED to the PC Board.



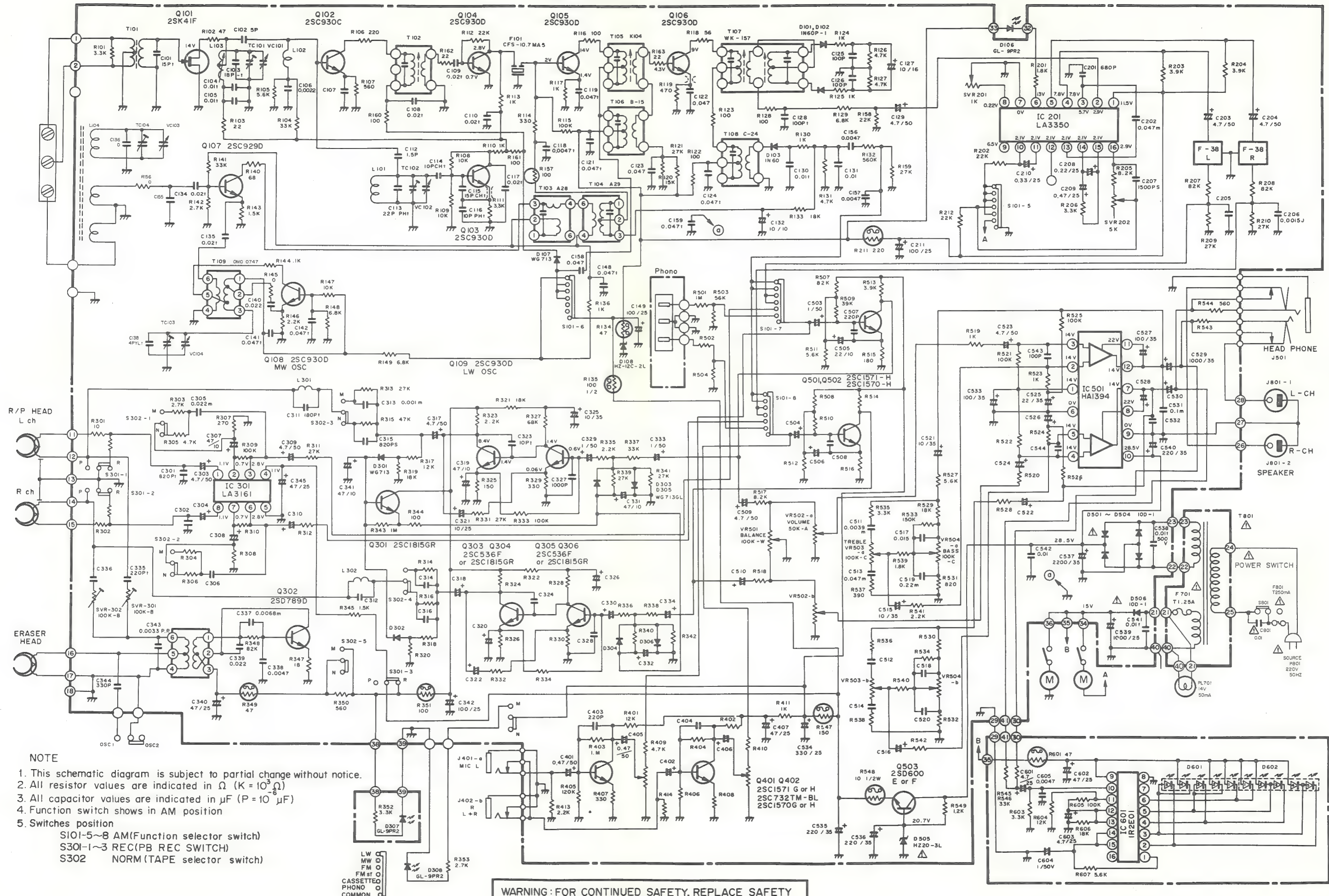
PC BOARD



MECHANISM DISASSEMBLY DRAWING



SCHEMATIC DIAGRAM



PARTS LIST

Ref. No.	Part No.	Description
Cassette Mechanism		
1	12600183	Chassis Ass'y
2	12470102	Pack Spring
3		Not used
4	12600201	Record Slide Lever
5	180502B	Spring
6	9100301	Record Safety Lever
7	12600202	Spring
8	2660515	REC Safety Lever Stopper
9		Not used
10	15600301	Head Panel
11	13070303	Head Block
12	15600303	Spring
13	130402	EH Collar
14	4080411	Collar
15	15600305	Spring
16	44310	R/P Head
17	86M01	Erase Head
18		Not used
19	12001193	Spring Plate Ass'y
20		Not used
21	12600491	Pinch Roller Ass'y
22	12600402	Spring
23		Not used
24	16100591	Take-up Reel Ass'y
25	161504	Drive Pulley
26		Not used
27		Not used
28	16100692	Supply Reel Ass'y
29	16100604	Reel Washer
30	12000791	RF Clutch Ass'y
31	12000709	Spring
32	12021001	Spring
33	12000891	FF Idler Arm Ass'y
34	180309	Spring
35		Not used
36	12600901	Flywheel Holder
37	12000908	Flywheel Plate
38	12000905	Spring
39	12000903	Flywheel Capstan
40		Not used
41	12001001	Main Plate
42	12601007	Spring
43	12001002	Rewind Arm
44	12601003	Play Slide Lever
45	090302	Collar
46	MSW0038N	Leaf Switch
47	15601003	Play Slide Lever SP
48	EG510ED2B	Motor
49	9731202M	Motor Pulley
50	12601202S	Main Belt
51	12601201	Motor Bracket
52	12001201	Collar Screw
53	5880910	Motor Rubber
54		Not used
55	12601301	Eject Slide Lever
56	7630706	Collar
57	2681201	Spring
58		Not used
59	17121491	Push Button Ass'y
60		Not used
61	12601701	Pause Slide Lever
62	12221702	Pause Lever
63	12221703	Spring
64	12221705	Arm Lever

Ref. No.	Part No.	Description
65	12601702	Spring
66	12601703	Collar
67	12601101	Auto-stop Lever
68	1320303	Spring
69	12601102	Collar
70		Not used
71	12601991	Brake Arm Ass'y
72	12601902	Spring
73		Not used
74	ME360023	Counter
75	17121801	Counter Bracket
76	3091001	Counter Belt
77	11991510	Collar
78		Not used
79	12941901	RC Slide Lever
80	12271901	RC Lever
81	2691701	Spring
82	4080305	Stopper B
83	12941902	Collar
84	13280601	Spring
85	12601005	REC Slide Lever Stopper
86		Not used
87	15071001	Cassette Guide L
88	15071002	Cassette Guide R
89	15572591	Cassette Case Ass'y
90	15572504	Top Panel
91	15572501	Case Arm L
92	15572583	Case Arm Ass'y
93	15572506	Collar
94	15572505	Spring
95	16992591	Air Damper Ass'y
96	14012585	Damper Holder B Ass'y
97	15071004	Collar
98		Not used
99		Not used
100		Cap Screw (+ -) 2x11
101		Screw (+ -) 2x11
102		Cap Screw (+ -) 2x12
103		Not used
104		Tapping Screw 2.6x4
105		Tapping Screw 2.6x5
106		Not used
107		Not used
108		Tapping Screw 2.6x8
109		Tapping Screw 2.6x12
110		Screw 2.6x12
111		Not used
112		Tapping Screw 2.6x6
113		Tapping Screw 2.6x6
114		Not used
115		E-ring ϕ 2.5
116		E-ring ϕ 4
117		E-ring ϕ 2.3
118		Not used
119	4081120	Nylon Washer 2.2x7x0.5
120	12601501	Nylon Washer 1.7x5x0.4
121	7061501	Nylon Washer 2.6x8x0.5
122		Washer 2.3x4.3x0.4
123		Tapping Screw 2x4
124		Flat Screw 2.6x5
125		Screw 2x4
126		Bind Screw 2.6x4
127		Not used
128		E-ring ϕ 1.5
129	15572511	Collar Screw H 2x8
130		Tapping Screw 2x8
131		E-ring ϕ 2
132	12601503	Collar Screw E

NOTES:

All capacitors and resistors are listed using abbreviations.

1. Abbreviations of capacitors.

CERAMIC	Disc Ceramic Capacitor
ELECTROLYTIC	Electrolytic Capacitor
MYLAR	Mylar Film Capacitor
VARIABLE	Variable Capacitor
MPP	Metalized Polypropylene Capacitor
PP	Polypropylene Capacitor
PAPER	Paper Capacitor
M. MYLAR	Metalized Mylar Film Capacitor
STYROL	Polystyrene Film Capacitor

The unit 'UF' and 'PF' are used in lieu of 'μF' and 'pF'

2. CARBON Carbon Film Resistor
FUSIBLE Fusible Carbon Film Resistor
COMPOSITION Fixed Composition Resistor

METAL OXIDE Metal Oxide Film Resistor
WIREWOUND (CEMENT) Wire Wound (Cement)
METAL Metal Film Resistor

All resistor values are indicated with the unit (Ω) omitted.

3. Abbreviations common to capacitors and resistors

C	±0.25pF (Used for capacitors only)
D	±0.5pF (Used for capacitors only)
F	±1%
G	±2%
J	±5%
K	±10%
M	±20%
Z	+80% -20% (Used for capacitors only)
P	+100% -0% (Used for capacitors only)

PARTS LIST

Ref. No.	Part No.	Description
CABINET PART		
	2076700511	Foot
	2165400074	FM Antenna
	2171202396	Dial Scale
	2171202320	Dial Blind
	2171202409	Decoration Plate
	2174900245	Pointer
	2176003456	Cabinet
	2176003334	Dust Cover
	2176003607	Panel
	2176101288	LED Holder
	2176302313	Felt for Dust Cover
	2176600895	Mic Stand
	2176602309	Hinge
	2176603638	Dial Window
	2176603848	Cassette Window
	2176603870	Dial Pointer
	2176603937	LED Window
	2176604346	Operation Panel
	2176604351	Cassette Lid
	2185200186	Rear Board
	2187100883	Knob EA39-3
	2187300703	Knob PA21-3
	2187600180	Knob LA8
	2192813574	Hex. Socket Screw 4014
	2187300368	Knob PA18 (Speed)
	2187500470	Knob MA11-3 (Cassette)
	2179001388	Control Plate
	2174100835	Knob Spring (Reject)
	2187300352	Knob PA17 (Reject)
	2187300615	Knob PA18-3 (Tape)
	2187000504	Knob CA16-3 (Tuning)
	2187100898	Knob EA38-3 (Volume)
CHASSIS		
	2168101604	Heat Sink
	2168101629	Shield Plate
	2168511226	Power Trans. Holder
	2176101293	Dial Drum
	2182400024	Cord Clamp
	2195000065	Power Cord 2P CEN 250V2.5A

Ref. No.	Part No.	Description
MECHANISM		
	2150900034	T.T.Mech.Semi-Auto Mech.Assy
	2150900129	Tone Arm
	2151300276	Motor 12V MM1-6P2RNA
	2151600172	Cassette Mech. TN-57CN
	2168508264	Lever Holder
	2174900120	Reject Wire
	2174900147	Lift Lever
	2176100889	Elevator
	2176602317	Reject Arm
	2176602338	45RPM Adapter
	2176602373	Arm Base
	2176602403	Arm Rest
	2176602411	Lifter Arm
	2176603796	Platter (Turn Table)
	2186100204	Reflection Sheet-W (Tape)
	2170600530	Lifter Shaft (Player)
	2150900047	Pinion Gear (Player)
	2150900079	Trip Lever (Player)
	2150900081	Washer(Player)Nylon D=7.5x12x1T
	2150900096	Restor Lever Ass'y (Player)
	2150900112	Spring (Player)
	2170200576	T. T. Spacer (Player)
	2176602428	T. T. Button (Player)
	2170600543	Motor Pulley (Player)
	2192800178	Motor Screw (Player)
	2174100853	Shaft Spring (Player)
	2176301655	Rubber Flat Belt (Player)
SEMICONDUCTORS		
D101, 102	2108000029	Diode-GE IN60P-1
D103	2012000092	Diode-GE-TP IN60P
D106	2111300456	LED GL-9PR2 Red
D107	2012010193	Diode-SI WG-713GL
D108	2108200326	Diode-Zener HZ12LC-2
D301~306	2012010193	Diode-SI-TP WG713GL
D307, 308	2111300456	LED GL-9PR2 Red
D501~504	2109100008	Rectifier-SI 10D-1

Ref. No.	Part No.	Description
or ⚠ D505	2109100040	Rectifier—SI IN4001
D506	2108200452	Diode—Zener HZ-20-3L 0.4W
or	2109100008	Rectifier—SI 10D-1
D601, 602	2109100040	Rectifier—SI IN4001
IC201	2111300473	LED GL-105R5 Redx5
IC301	2102300015	IC LA3350
IC501	2102400446	IC LA3161
IC601	2102400451	IC HA1394
Q101	2102000184	IC IR2E01
Q102	2107100064	Transistor 2SK41F
Q103~106	2103000502	Transistor 2SC930C
Q107	2103000510	Transistor 2SC930D
Q108	2103000485	Transistor 2SC929D
Q301	2103000510	Transistor 2SC930D
Q302	2003181523	Transistor 2SC1815GR
Q303~306	2004578923	Transistor 2SD789D
or	2003181523	Transistor 2SC1815GR
Q401, 402	2103000043	Transistor 2SC536F
or	2103000654	Transistor 2SC732TM-BL
or	2103100382	Transistor 2SC1571G
or	2103100397	Transistor 2SC1571H
Q501, 502	2103100369	Transistor 2SC1570H
or	2103100397	Transistor 2SC1571H
Q503	2104500698	Transistor 2SD600-E
or	2104500703	Transistor 2SD600-F
CAPACITORS		
C101	2132000396	Variable Capacitor
C102	2028000306	Ceramic 50V 15PF-J
C103	2028000143	Ceramic 50V 5PF-D
C104, 105	2028000335	Ceramic 50V 18PF-J
C106	2027010117	Ceramic 50V 0.01UF-P
C107	2027010162	Ceramic 50V 2200PF-Z
C108	2027010156	Ceramic 50V 0.022UF-Z
C109, 110	2027010057	Ceramic 50V 0.047UF-Z
C112	2027010156	Ceramic 50V 0.022UF-Z
C113	2028000059	Ceramic 50V 1.5PF-C
C114	2028030072	Ceramic 50V 22PF-K
C115	2028018142	Ceramic 50V 10PF-D
C116	2028018223	Ceramic 50V 15PF-K
C117	2028030084	Ceramic 50V 10PF-J
C118	2027010156	Ceramic 50V 0.022UF-Z
C119	2027000406	Ceramic 50V 4700PF-K
C121~124	2027010057	Ceramic 50V 0.047UF-Z
C125, 126	2027010057	Ceramic 50V 0.047UF-Z
C127	2028000616	Ceramic 50V 100PF-K
C128	2030019019	Electrolytic 25V 10UF-M
C129	2028000616	Ceramic 50V 100PF-K
C130, 131	2030029053	Electrolytic 50V 4.7UF-M
C132	2027000482	Ceramic 50V 0.01UF-K
C134, 135	2030019019	Electrolytic 25V 10UF-M
C138	2027010156	Ceramic 50V 0.022UF-Z
C140	2128058028	Ceramic 50V 5PF-D
C141, 142	2027010156	Ceramic 50V 0.022UF-Z
C148	2027010057	Ceramic 50V 0.047UF-Z
C149	2027010057	Ceramic 50V 0.047UF-Z
C156	2030019058	Electrolytic 25V 100UF-M
C158, 159	2131100157	Mylar 50V 2700PF-K
C161	2027010057	Ceramic 50V 0.047UF-Z
C201	2027010057	Ceramic 50V 0.047UF-Z
C202	2028001036	Ceramic 50V 680PF-J
C203, 204	2131100711	Mylar 50V 0.047UF-K
C205, 206	2030029053	Electrolytic 50V 4.7UF-M
C207	2131100075	Mylar 50V 1500PF-J
C208	2131030429	Styrol 50V 1500PF-J
	2130513077	AL—Solid 25V 0.22UF-M

Ref. No.	Part No.	Description
C209	2130513567	AL—Solid 25V 0.47UF-M
C210	2130513551	AL—Solid 25V 0.33UF-M
C211	2030019058	Electrolytic 25V 100UF-M
C301, 302	2027000220	Ceramic 50V 820PF-K
C303, 304	2030029053	Electrolytic 50V 4.7UF-M
C305, 306	2131100576	Mylar 50V 0.022UF-K
C307, 308	2030009024	Electrolytic 10V 47UF-M
C309, 310	2030029053	Electrolytic 50V 4.7UF-M
C311, 312	2028000699	Ceramic 50V 180PF-J
C313, 314	2131100001	Mylar 50V 1000PF-J
C315, 316	2131030339	Styrol 50V 820PF-J
C317, 318	2030029053	Electrolytic 50V 4.7UF-M
C319, 320	2030009024	Electrolytic 10V 47UF-M
C321, 322	2030019019	Electrolytic 25V 10UF-M
C323, 324	2028000256	Ceramic 50V 10PF-F
C325, 326	2030019019	Electrolytic 25V 10UF-M
C327, 328	2027000247	Ceramic 50V 1000PF-K
C329, 330	2030029021	Electrolytic 50V 1UF-M
C331, 332	2030009024	Electrolytic 10V 47UF-M
C333, 334	2030029021	Electrolytic 50V 1UF-M
C335, 336	2027000084	Ceramic 50V 220PF-K
C337	2031100359	Mylar 50V 6800PF-J
C338	2131100284	Mylar 50V 4700PF-J
C339	2031100562	Mylar 50V 0.022UF-J
C340	2030019043	Electrolytic 25V 47UF-M
C341	2030009024	Electrolytic 10V 47UF-M
C342	2030019058	Electrolytic 25V 100UF-M
C343	2131200003	PP 600V 3300PF-J
C345	2030019043	Electrolytic 25V 47UF-M
C401, 402	2030029014	Electrolytic 50V 0.47UF-M
C403, 404	2027000084	Ceramic 50V 220PF-K
C405, 406	2030029014	Electrolytic 50V 0.47UF-M
C407	2030019043	Electrolytic 25V 47UF-M
C503, 504	2030029021	Electrolytic 50V 1UF-M
C505, 506	2030014010	Electrolytic 16V 22UF-M
C507, 508	2027000084	Ceramic 50V 220PF-K
C509, 510	2030029053	Electrolytic 50V 4.7UF-M
C511, 512	2131100261	Mylar 50V 3900PF-K
C513, 514	2131100711	Mylar 50V 0.047UF-K
C515, 516	2030024015	Electrolytic 35V 10UF-M
C517, 518	2131100502	Mylar 50V 0.015UF-K
C519, 520	2131100997	Mylar 50V 0.22UF-K
C521, 522	2030024015	Electrolytic 35V 10UF-M
C523, 524	2030029053	Electrolytic 50V 4.7UF-M
C525, 526	2030024022	Electrolytic 35V 22UF-M
C527, 528	2030024054	Electrolytic 35V 100UF-M
C529, 530	2030019092	Electrolytic 25V 1000UF-M
C531, 532	2031100858	Mylar 50V 0.1UF-K
C533	2030024060	Electrolytic 35V 220UF-M
C534	2030019075	Electrolytic 25V 330UF-M
C535, 536	2030019064	Electrolytic 25V 220UF-M
C537	2030024106	Electrolytic 35V 2200UF-M
C538	2027065048	Ceramic 500V 0.01UF-P
C539	2030019092	Electrolytic 25V 1000UF-M
C540	2030024060	Electrolytic 35V 220UF-M
C541	2027065048	Ceramic 500V 0.01UF-P
C542	2027010117	Ceramic 50V 0.01UF-P
C543, 544	2028000616	Ceramic 50V 100PF-K
C601	2030029053	Electrolytic 50V 4.7UF-M
C602	2030019043	Electrolytic 25V 47UF-M
C603	2030029053	Electrolytic 50V 4.7UF-M
C604	2030029021	Electrolytic 50V 1UF-M
C605	2027000406	Ceramic 50V 4700PF-K
⚠ C801	2127800063	Ceramic AC400V 0.01UF

Ref. No.	Part No.	Description
RESISTORS		
R101	2136108752	Carbon 1/4W 3.3K-J
R102	2136108322	Carbon 1/4W 47-J
R103	2036500246	Carbon 1/8W 22-J
R104	2036501002	Carbon 1/8W 33K-J
R105	2036500825	Carbon 1/8W 5.6K-J
R106	2036500481	Carbon 1/8W 220-J
R107	2036500584	Carbon 1/8W 560-J
R108, 109	2136108870	Carbon 1/4W 10K-J
R110	2136108641	Carbon 1/4W 1K-J
R111	2136108752	Carbon 1/4W 3.3K-J
R112	2036500965	Carbon 1/8W 22K-J
R113	2036500645	Carbon 1/8W 1K-J
R114	2036500523	Carbon 1/8W 330-J
R115	2036501126	Carbon 1/8W 100K-J
R116	2036500405	Carbon 1/8W 100-J
R117	2036500645	Carbon 1/8W 1K-J
R118, 119	2036500561	Carbon 1/8W 470-J
R120	2036500927	Carbon 1/8W 15K-J
R121	2036500988	Carbon 1/8W 27K-J
R122	2136100602	Carbon 1/4W 100-J
R123	2036500405	Carbon 1/8W 100-J
R124, 125	2036500645	Carbon 1/8W 1K-J
R126, 127	2036500800	Carbon 1/8W 4.7K-J
R128	2036500405	Carbon 1/8W 100-J
R129	2036500842	Carbon 1/8W 6.8K-J
R130	2036500645	Carbon 1/8W 1K-J
R131	2036500800	Carbon 1/8W 4.7K-J
R132	2036501306	Carbon 1/8W 560K-J
R133	2036500944	Carbon 1/8W 18K-J
R134	2137100349	Fusible 1/4W 47-J
R135	2137100011	Fusible 1/2W 100-J
R136	2136108641	Carbon 1/4W 1K-J
R140	2136108360	Carbon 1/4W 68-J
R141	2136108999	Carbon 1/4W 33K-J
R142	2136108734	Carbon 1/4W 2.7K-J
R143	2136108673	Carbon 1/4W 1.5K-J
R144	2036500645	Carbon 1/8W 1K-J
R146	2136108713	Carbon 1/4W 2.2K-J
R147	2136108870	Carbon 1/4W 10K-J
R148, 149	2136108835	Carbon 1/4W 6.8K-J
R157	2137100383	Fusible 1/4W 100-J
R158	2036500965	Carbon 1/8W 22K-J
R159	2036500988	Carbon 1/8W 27K-J
R160, 161	2136100602	Carbon 1/4W 100-J
R162, 163	2136102866	Carbon 1/8W 22-J
R201	2036500709	Carbon 1/8W 1.8K-J
R202	2036500965	Carbon 1/8W 22K-J
R203, 204	2036500785	Carbon 1/8W 3.9K-J
R205	2036500863	Carbon 1/8W 8.2K-J
R206	2036500762	Carbon 1/8W 3.3K-J
R207, 208	2036501101	Carbon 1/8W 82K-J
R209, 210	2036500988	Carbon 1/8W 27K-J
R211	2137100426	Fusible 1/4W 220-J
R212	2036500965	Carbon 1/8W 22K-J
R301, 302	2036500169	Carbon 1/8W 10-J
R303, 304	2036500741	Carbon 1/8W 2.7K-J
R305, 306	2036500800	Carbon 1/8W 4.7K-J
R307, 308	2036500508	Carbon 1/8W 270-J
R309, 310	2036501126	Carbon 1/8W 100K-J
R311~314	2036500988	Carbon 1/8W 27K-J
R315, 316	2036501044	Carbon 1/8W 47K-J
R317, 318	2036500902	Carbon 1/8W 12K-J
R319~322	2036500944	Carbon 1/8W 18K-J
R323, 324	2036500724	Carbon 1/8W 2.2K-J
R325, 326	2036500447	Carbon 1/8W 150J

Ref. No.	Part No.	Description
R327, 328	2036501088	Carbon 1/8W 68K-J
R329, 330	2036500523	Carbon 1/8W 330-J
R331, 332	2036500988	Carbon 1/8W 27K-J
R333, 334	2036501126	Carbon 1/8W 100K-J
R335, 336	2036500724	Carbon 1/8W 2.2K-J
R337, 338	2036501002	Carbon 1/8W 33K-J
R339~342	2036500988	Carbon 1/8W 27K-J
R343	2036501369	Carbon 1/8W 1M-J
R344	2036500405	Carbon 1/8W 100-J
R345	2036500689	Carbon 1/8W 1.5K-J
R347	2036500229	Carbon 1/8W 18-J
R348	2036501101	Carbon 1/8W 82K-J
R349	2137100349	Fusible 1/4W 47-J
R350	2136100873	Carbon 1/4W 560-J
R351	2137100383	Fusible 1/4W 100-J
R352	2136006750	Carbon-F 1/8W 3.3K-J
R353	2136006732	Carbon-F 1/8W 2.7K-J
R401, 402	2036500902	Carbon 1/8W 12K-J
R403, 404	2036501369	Carbon 1/8W 1M-J
R405, 406	2036501143	Carbon 1/8W 120K-J
R407, 408	2036500523	Carbon 1/8W 330-J
R409, 410	2036500800	Carbon 1/8W 4.7K-J
R411	2036500645	Carbon 1/8W 1K-J
R413, 414	2036500724	Carbon 1/8W 2.2K-J
R501, 502	2036501369	Carbon 1/8W 1M-J
R503, 504	2036501065	Carbon 1/8W 56K-J
R507, 508	2036501101	Carbon 1/8W 82K-J
R509, 510	2036501027	Carbon 1/8W 39K-J
R511, 512	2036500825	Carbon 1/8W 5.6K-J
R513, 514	2036500785	Carbon 1/8W 3.9K-J
R515, 516	2036500468	Carbon 1/8W 180-J
R517, 518	2036500863	Carbon 1/8W 8.2K-J
R519, 520	2036500645	Carbon 1/8W 1K-J
R521, 522	2036501126	Carbon 1/8W 100K-J
R523, 524	2036500645	Carbon 1/8W 1K-J
R525, 526	2036501126	Carbon 1/8W 100K-J
R527, 528	2036500825	Carbon 1/8W 5.6K-J
R529, 530	2036500944	Carbon 1/8W 18K-J
R531, 532	2036500628	Carbon 1/8W 820-J
R533, 534	2036501164	Carbon 1/8W 150K-J
R535, 536	2036500762	Carbon 1/8W 3.3K-J
R537, 538	2036500540	Carbon 1/8W 390-J
R539, 540	2036500709	Carbon 1/8W 1.8K-J
R541, 542	2036500724	Carbon 1/8W 2.2K-J
R543, 544	2036500584	Carbon 1/8W 560-J
R545, 546	2136006997	Carbon 1/8W 33K-J
R547	2137100401	Fusible 1/4W 150-J
R548	2137100218	Fusible 1/2W 10-J
R549	2036500666	Carbon 1/8W 1.2K-J
R601	2137100349	Fusible 1/4W 47-J
R603	2136006750	Carbon-F 1/8W 3.3K-J
R604	2136006895	Carbon-F 1/8W 12K-J
R605	2136007113	Carbon-F 1/8W 100K-J
R606	2136006935	Carbon-F 1/8W 18K-J
R607	2136006812	Carbon-F 1/8W 5.6K-J
CONTROLS		
SVR201	2142101073	Variable Resistor 1K-B Semi-Fixed
SVR202	2142101090	Variable Resistor 5K-B Semi-fixed
SVR301, 302	2142101137	Variable Resistor 100K-B
VR401	2143000771	Variable Resistor 50K-B X2
VR501	2143000808	Variable Resistor 100K-W
VR502	2143000783	Variable Resistor 50K-A X2

Ref. No.	Part No.	Description
VR503, 504	2143000798	Variable Resistor 100K-C X2
INDUCTORS		
△ T801	2117300641	Power Transformer AC 220V Class-2
CF101	2152200001	Ceramic Filter SFE10.7MA5-A
or	2152200019	Ceramic Filter SFE10.7MA5-B
or	2152200026	Ceramic Filter SFE10.7MA5-C
CF201, 202	2144000018	Twin Filter F-38
L101	2123100752	FM Osc Coil FEM-10
L104	2123000704	AM Ant. Coil AM-0704
L301,302	2114703967	Choke Coil 27MH
	2158400039	Ring Core (For Q103,106) 3X1X3.5
T101	2158400018	Screw Core SV-3C 4X10
T102	2123300501	FM IFT K-104
T103	2123300185	AM IFT A-28
T104	2123300190	AM IFT A-29
T105	2123300501	FM IFT K-104
T106	2123300074	AM IFT B-15
T107	2123400123	FM IFT WK-157
T108	2123300039	AM IFT C-24
T109	2123100747	MW Osc. Coil OMO-0747
T301	2123900325	Bias Osc. Coil
MISCELLANEOUS		
	2111000578	Pilot Lamp 14V 50MA
	2149100442	Composite Terminal 3P Screw, 2P DIN Jack
	2149200033	Fuse Holder
	2149300297	Connector 3P
	2149600050	Plug 3P
	2149600426	Plug 4P-H
	2150200189	Microphone DM-23(TELETON)
	2168510681	Rec. Lever
	2168510701	Push Switch Holder
	2168510726	Rec. Holder
	2168510743	Cassette Bracket
	2168511243	PCB Holder-R
	2170600697	Tuning Shaft
	2174100218	Spring (Coil) (Dial)
	2174101023	Rec. Spring
	2175902282	Jack Label
	2176100968	Small Pulley D=12MM
	2176602808	Nylon Bushing
	2168511505	Plate
	2148200502	Push Switch (Speed)
	2176602808	Nylon Bushing (PCB, Wire)
△ F701	2147300010	Fuse-BS 1.25A 250V
△ F801	2147300002	Fuse-BS 0.25A 250V
J401	2149301410	Mic Jack
J501	2149301402	Headphone Jack
	2176603077	Bushing (LED)
	2168511189	AC Cord Fixture
	2168511201	Push Switch Arm (P.SW)
	2149200103	Fuse Holder 250V 10A(Primary,
	2174900134	Torsion Spring (P.SW)
S101	2148100681	Slide Rotary Switch
S301	2148100696	Slide Switch
S302	2148200812	Push Switch
△ S801	2148200921	Push Switch (Power)
	2148500003	Push Switch (Tone Arm)
△	21820000143	Capacitor cover (For C801)

Ref. No.	Part No.	Description
COMPLETE MODULES AND ASSY		
	2854000846	P. C. Board Assy (Main)
	2856000509	P. C. Board Assy (PS)
	2859001246	P. C. Board Assy (LED)